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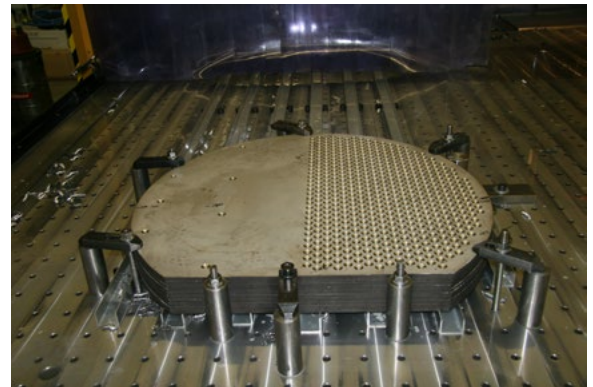
# TIPS FOR AVOIDING DRILLING MISTAKES

Quickmill is known in the Metal Cutting Industry worldwide as a world class supplier of metal cutting solutions. Across a wide variety of industries, we've developed a proven track record for reliable, innovative machining and drilling solutions. Here are some helpful hints to keep in mind before you start drilling.

## 1. Clamps, clamps and more clamps

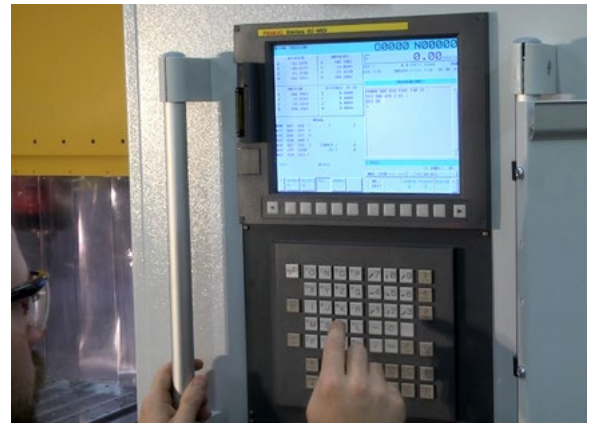
Use a good amount of clamps around the perimeter of the tube sheet or baffles. If four clamps look good, use six. If six look good, use eight.

When setting parts on the table of your machine make sure you put the maximum support you can. When you drill with carbide tools the tip pressure is enormous and even a 3/4" drill can make a plate vibrate, thus causing tool failure.



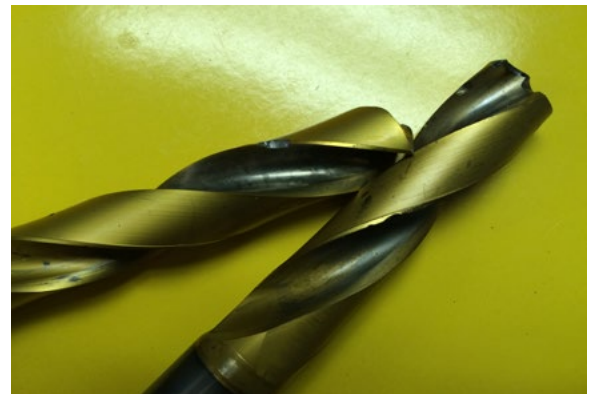
## 2. Track Your Results

When using the book speeds and feeds recommended from the tool manufacture for a certain work piece material, start with the middle recommendation and work your way up. Keep a chart on all the speeds and feeds that were tried. Mark down the tool life ie: how many linear inches the drill did before the insert failed. If the tool life and surface finish are well within your expectations, try more feed. Keep track of all data, on future jobs with the same material, you will know what works and what doesn't.



## 3. Protect Your Tooling

All carbide inserts should be left in the protective boxes they came in till needed. Carbide is very brittle and if taken out of the protective box and placed in a storage bin where they are allowed to hit each other, they will chip.



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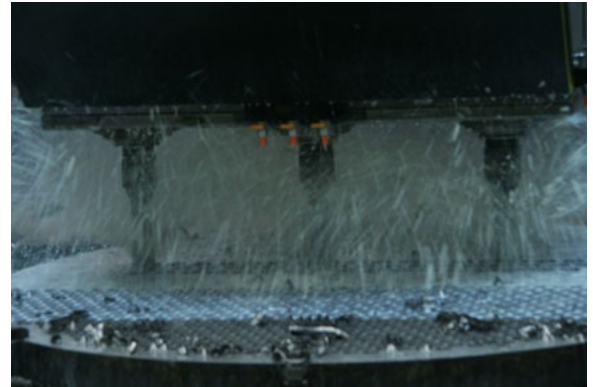
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#### 4. Watch Your Coolant

On plates that are not flat, be aware of the coolant spray when using through the tool coolant drills. The coolant will spray upwards along the flutes as the drill is drilling. As the drill exits the bottom of the plate the coolant's upward flow will immediately stop and flow under the plate. If the coolant flow continues to spray upward, the hole did not get drilled all the way through. One must stop the drilling and reset the tool's drill depth.



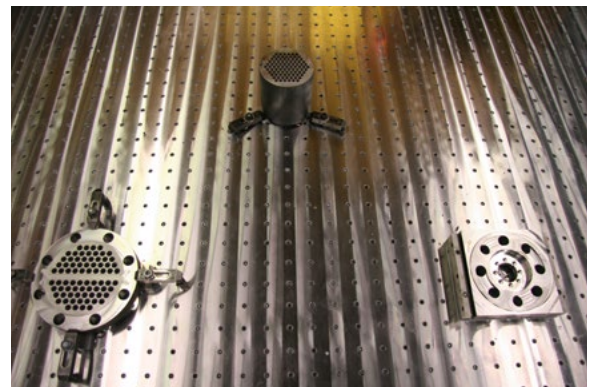
#### 5. Double Check Your Setup

After you think you have a parallel, sound setup, tap the work piece lightly with an aluminum or brass hammer. One will be able to tell right away by the sound. If you get a ringing sound or feel vibration through the handle, then your setup needs work. There should be a dull thud sound, just as if you were tapping right on the table.



#### 6. Clean Your Work Area

Make sure the table is clean and there is no foreign debris between the parallels and the work piece. Any abnormalities will decrease the production rates and tool life during machining operations. Remember: A clean work area is a productive work area.



**Contact Quickmill today for any questions on drilling or our line of drilling and milling gantry machining centers.**



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